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The 'new golden age of accumulation', the new depression and the Greek economy¹

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Η “νέα χρυσή εποχή της συσσώρευσης”, η νέα ύφεση και η ελληνική οικονομία

Λεωτέρης Τσουλφίδης, *Πανεπιστήμιο Μακεδονίας*

ABSTRACT

The purpose of this paper is to delve into the deeper causes of the current crisis and its detailed manifestation in the case of the Greek economy. The major argument of the paper is that the root cause of the crisis is fundamentally identified in the declining profitability which past a point leads to a stagnant mass of real net profits thereby discouraging investment spending and leading to rising unemployment. In the case of the Greek economy, this crisis of profitability has been aggravated by the contraction of its major productive activities, that is, manufacturing and agriculture. The contraction of these activities not only worsened the crisis but furthermore paved the way for the development of different forms of its expression; that is, mounting debt and unprecedented high rates of unemployment bringing the whole society into a stalemate.

JEL Classifications: B5; E1, O51

KEY WORDS: Falling rate of profit, unproductive activities, non-tradables, crisis, debt, Greek economy

ΠΕΡΙΛΗΨΗ

Στόχος του άρθρου είναι να ερευνήσει διεξοδικά τις βαθύτερες αιτίες της τρέχουσας κρίσης και της λεπτομερούς εκδήλωσής της στην περίπτωση της ελληνικής οικονομίας. Το σημαντικότερο επιχείρημα του άρθρου είναι ότι η πρωταρχική αιτία της κρίσης εντοπίζεται στην πτωτική τάση του ποσοστού κέρδους που από ένα σημείο και μετά οδηγεί σε στασιμότητα και εν τέλει πτώση στη μάζα των πραγματικών καθαρών κερδών που με τη σειρά τους αποθαρρύνουν τις επενδύσεις και οδηγούν σε αυξανόμενη ανεργία. Στην περίπτωση της ελληνικής οικονομίας, αυτή η κρίση της κερδοφορίας έχει επιδεινωθεί από τη συστολή των σημαντικών παραγωγικών δραστηριοτήτων της, ιδίως τη βιομηχανία και τη γεωργία. Η συστολή αυτών των δραστηριοτήτων όχι μόνο επιδείνωσε την κρίση αλλά επιπλέον προετοίμασε το έδαφος για την ανάπτυξη των διαφορετικών μορφών έκφρασής της, δηλαδή στη διόγκωση του χρέους και σε πρωτοφανή υψηλά ποσοστά ανεργίας που φέρνουν ολόκληρη την κοινωνία σε ένα αδιέξοδο.

ΛΕΞΕΙΣ-ΚΛΕΙΔΙΑ: Πτωτική τάση κέρδους, μη παραγωγικές δραστηριότητες, μη εμπορεύσιμα αγαθά, κρίση, χρέος, ελληνική οικονομία

1. Introduction

The main argument of this paper is that the growth or stagnation of an economy is conditioned on the evolution of profitability, that is, the capacity of an economy to create enough profits on its invested capital. If this ratio is in its upward trend then it follows that investment is encouraged and so capital stock is built up creating new employment positions. During this time period an

of optimism makes people think that “this time is different” in the sense that the current conditions that give rise to economic growth will be lasting for far too long, if not forever. If on the other hand, profitability is falling, as a result of a combination of factors, but mainly because of mechanization as this is reflected in the rising capital-labor (output) ratio, then the profits created by any new investment in the long run (approximately, two decades) reach a tipping point, where the marginal profits (*i.e.* the change in profits caused by a change in investment) become zero, thereby discouraging the investment motive and marking the onset of the stagnation phase, which lasts until the conditions of rising profitability are restored, once again. The necessary requirement for the later is lower wages and interest rates and above all devaluation of capital stock, which is by far the most important and, at the same time, sustainable factor that may give rise to a new wave of economic growth.

In this juncture, it is important to distinguish between two kinds of capital devaluation; the first, may take place in the stock market, having a short run effect, and therefore by no means guarantees any substantial and lasting changes in the economic predicament; the second kind of capital devaluation is associated with clustered innovations which reduce the value of existing means of production and which form the most important prerequisite for the restoration of profitability on a sustainable basis while at the same time marking the onset of the rising phase of a long cycle.² It goes without saying that there might be policies towards an encouragement of innovations, but these take a long time to work themselves out and for this reason this kind of effective devaluation is left, by and large, to the operation of spontaneous market forces.

Our data show that the Greek economy experienced all of these phases and now is going through its worst depression ever. This does not mean that all countries experience the phase-change in the same way and at the exact same time period, but rather each country has its own unique experience, which is conditioned upon the existing institutional setup and the concrete policy measures pursued by governments. Thus although rising or falling profitability is the *causa causans* of all the hitherto phases in capital accumulation the phenomena that will be experienced in each country will depend on this country's specificities. Thus each phase of the accumulation process leaves its own imprint which differs across countries.

The remainder of the article is structured as follows: Section 2 deals with the phase changes and the intellectual milieu that they create by contrasting the ‘mixed economy’ of the 1960s and the ‘new economy’ of the 1990s; Section 3 discusses the construction of the fundamental variables that shaped the evolution of profitability in the Greek economy paying particular attention to the significance of the distinction between productive and non-productive activities. Section 4 refers to the mechanics of falling profitability which, sooner or later, leads to the stagnation of the mass of real net profits associated with the crisis stage of the economy and examines the extent to which the available data of the Greek economy support such a view. Section 5 discusses and critically evaluates the particular conditions of the Greek economy and the concrete manifestation of crisis. Finally, Section 6 makes some concluding observations.

2. From the old “golden age of accumulation” to the “new” and back to depression

The decade of 1990s has a lot in common with that of 1960s, if not of 1920s. All these decades are characterized by a climate of euphoria that led to the (incorrect) idea that business cycles, at least the severe ones, were phenomena of the past, when the market forces were out of control.

In the 1960s for example, the argument was that the economy is under the control of government, which with the appropriate mix of fiscal and monetary policies could smooth out the business cycle ensuring perpetual growth. In fact, the questions that occupied the attention of economists in the late 1960s were the optimum combination of fiscal and monetary policies to achieve the desired goal of vigorous economic growth with minimum unemployment. This euphoric atmosphere had affected even radical Keynesian economists, such as for example Martin Bronfrenbrenner (1969) who in his influential book "Is the Business Cycle Obsolete?" argued that the coordination between government and business created the so-called "mixed economy", which combines the desired features of the market with those of the planned economy. Thus, market and government together can shield the economy from significant, at least, downturns in the level of economic activity. This idea of successful government intervention seems to have been tested in the case of the U.S. recession in 1962, when Kennedy's council of economic advisors proposed income tax cuts in the effort to stimulate the economy through the additional consumption demand. Indeed, the application of this policy in the U.S. economy led economic growth back to its trend rate and, at the same time, strengthened the view that economists know enough about the way in which the economy actually works and thus, with the right mix of policies, they can restore it back to its long term growth path.

The stagflation that set in the late-1960s meant to stay until the early-1980s casting doubt on the purported abilities of government to manage the economy. In effect, stagflation was the testing terrain for the major macroeconomic approaches starting from the Keynesians of the Neoclassical Synthesis, and continuing with the Monetarists and the New Classical macroeconomists. It is interesting to note that during this period of stagnation the unemployment rate was kept relatively low, whereas inflation was present with rising or falling rates, but in no case was there any deflation as in previous long depressions of pre-World War II capitalism. The slowdown in the economic activity increased unemployment which exceeded the 10 percent borderline during 1982 in the USA, whereas in European countries, with the exception of Spain, unemployment was much lower. In Greece, the problem was the double-digit inflation since unemployment in the 1970s ranged between two to three percent, whereas in the mid-1980s it increased to five or six percent, percentages which by today's standards are considered almost equivalent to full employment. The lasting slowdown of economic activity coupled with the relatively low unemployment rates led some economists to the characterization of the period of late-1960s to early-1980s as 'silent depression'. Neoliberal economists on the other hand attributed the stagflation period to the Keynesian policies that led to big government and to intervention policies that prevented the free operation of market forces. The anti-government rhetoric was followed, in a number of countries, by privatizations, the dismantling of welfare state and the deregulation of money markets, which also led to a reduction or, at best, a stagnation of real wages, and therefore to the restoration of profitability.

It has been argued, time and again, that the strong economic growth characterizing most OECD economies in the decade of the 1990s persisted precisely because it stemmed from the willingness of the corporate world to undertake innovative and, therefore, risky investment projects. These developments have been facilitated by the downfall of the centrally planned economies; the high unemployment rates and the idea of flexibility in employment led to greater work effort and raised productivity. In addition, the reorganization of the corporate economy through downsizing and mergers gave rise to substantial increases in profitability. Naturally, these processes could not be contained within national borders and have taken on global proportions; for example, innovative investment depends, a great deal, on open international markets, since national markets do not provide big enough payoffs for taking high risks anymore.

Many authors have found striking similarities between the post-1990s period with that of the first post-war decades, and therefore rightfully characterized the 1990s as “new golden age of accumulation” (Zarnowitz, 2000; Poterba, 2000). During this time period there has been a similar euphoric atmosphere as this can be judged from discussions about the so-called “new economy” of the 1990s, which —according to its proponents— displays features that appear quite similar to those of the “mixed economy” of the 1950s and the 1960s. The salient difference between the “new economy” and the “mixed economy” is that the latter was considered to be depressions proof because of the government’s stabilization policies. In contrast, the proponents of the “new economy” claimed that the market itself has created internal defense mechanisms for the conversion of otherwise deep and lasting business fluctuations to shallow and short-run ones. Hence, the idea of the “great moderation”, that is, the smoother evolution of the GDP as this is captured by the standard deviation of its growth rate. In effect, the standard deviation of the growth of the real GDP in the US economy was rising from the mid-1960s up until the mid-1980s and then dropped abruptly and stabilized at a much lower level up until the recession that started in 2007 and then increased sharply (Abel *et al.*, 2012, pp. 280-283).

The following quotation from an often-cited article entitled “The End of the Business Cycle” characterizes the whole literature and really echoes the sentiments of the decade of the 1960s! In this article we read: “Business cycles have come to be taken as a fact of life. However, modern economies operate differently than nineteenth-century and early twentieth century industrial economies. Changes in technology, ideology, employment, and finance, along with globalization of production and consumption, have reduced the volatility of economic activity in the industrialized world. For both empirical and theoretical reasons, in advanced industrial economies the waves of the business cycles are becoming more like ripples” (Weber, 1997, p. 65). But also major economists such as for example Robert Lucas in his presidential address in 2003 to the American Economic Association categorically declared that the “central problem of depression prevention has been solved.”

3. The Greek economy and the first crisis of the new millennium

In this section, we present estimates of the basic macroeconomic variables of the Greek economy following the classical approach rooted in the distinction between productive and unproductive labor, and we show the differences of classical categories from the corresponding mainstream ones. In the latter, all remunerative labor regardless of its employment is treated as if it were productive. We call these variables ‘basic’, because they form the constituent components of the profit rate, whose evolution determines the ‘general health’ and ‘vitality’ of the system and characterizes the stage of accumulation as expanding or contracting. Following the literature (Shaikh and Tonak, 1994; Paitaridis and Tsoulfidis, 2012, *inter alia*), we present the evolution of fundamental variables of the Greek economy for the period 1960-2013.³ For the years prior to 1970, due to lack of detailed data, the analysis is restricted to the evolution of only a few variables on the basis of which we speculate about the phase of the economic activity. In fact, only for the period 1970-2007, do we have detailed data mainly from KLEMS and also from domestic sources.⁴ Despite the lack of detailed data series for the period prior to 1970, we feel that our analysis is carried out for a time period sufficiently long to observe the evolution of key macroeconomic variables that help to identify the phase-changes of the Greek economy.

We start our analysis by presenting the capital-labor ratio (capital stock at constant prices to labor employed in production, K/L_p) which displays an upward trend (Figure 1).⁵ This rising trend lends support to the argument according to which the increasing mechanization of the production process is built in the system motivated by profit. Under these circumstances, businesses are bound to invest in physical capital in their incessant efforts to adopt new technologies, increase the division of labor and its productivity as necessary conditions to reduce unit production cost and, eventually, the selling price of commodities in the effort to expand their market share at the expense of their competitors. Figure 1 below displays the classical, that is, the non-conventional capital-labor ratio whose data availability allows its estimation only for the period 1970-2007, while the conventional capital-labor ratio is much easier to compute from the available national income account data spanning the period 1960-2013. Between the two ratios, the conventional one includes in the denominator all labor regardless of its characterization as unproductive (K/L); while the non-conventional or classical measure in the denominator includes only the number of productive workers (K/L_p), whose estimation requires detailed data, which are available, in a consistent way, only for the period 1970 to 2007. Given that the classical measurement of productivity is restricted to the number of productive workers, whereas the conventional measure of productivity makes no subtle distinctions and treats all workers alike, it follows that as the number of non-productive workers increases, the conventional or Orthodox National Accounts (ONA) measure of capital-labor ratio will tend to decrease, while the corresponding Classical National Accounts (CNA) estimate of the capital-labor ratio will tend to increase. Consequently, the two measures of productivity will be drifting further away from each other with the passage of time. More specifically, the average annual growth rate of the capital labor ratio of CNA is 3.65%, whereas for the same time period the ONA ratio increased at an average annual growth rate of only 2.53%. It is worth pointing out that an annual difference of 1.12% in the growth rates of such variables, as they operate accumulatively, leads to substantial deviations in their long-run evolution.

Figure 1 The capital-labor ratio

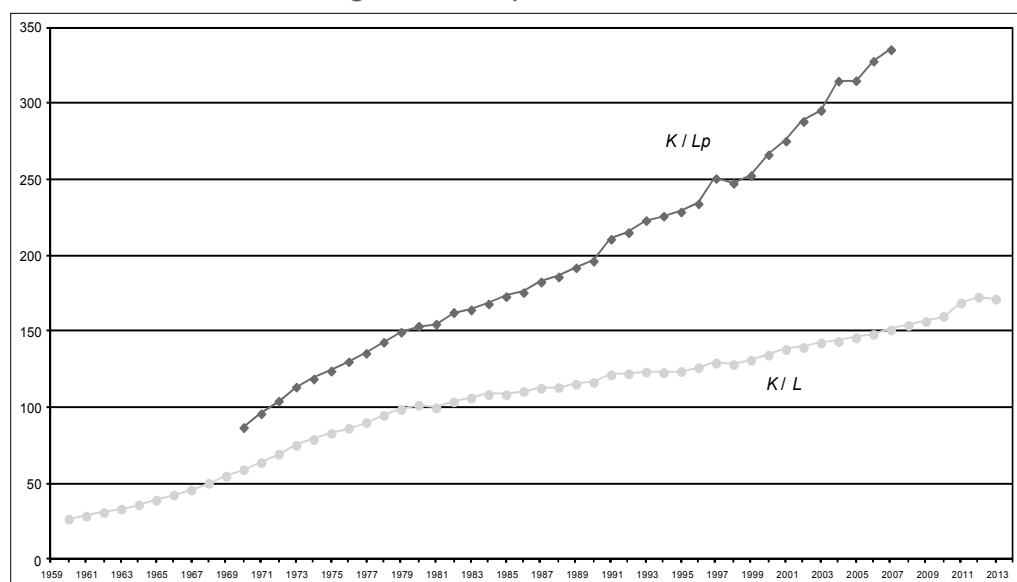
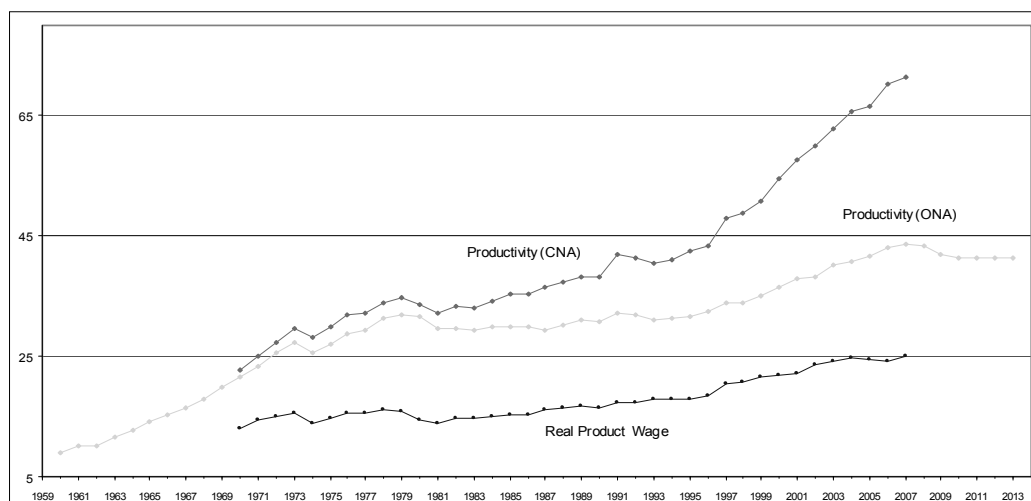


Figure 2 below contrasts the evolution of productivity according to the two estimating methods of national accounts. Notwithstanding the rising trend in labor productivity in both estimates, the CNA productivity grows at a rate of 3.08%, while its ONA counterpart grows at a rate of only 1.89%. The difference between the two measures stems from the measurement of the value added in the numerator and the employment in the denominator. More specifically, the value added in the CNA includes the value added of all productive sectors of the economy, the royalties (taxes, rents, interests, etc.) paid by the productive sectors to the royalty sectors of the economy (financial institutions, non-productive services and government), and the gross 'output' of the wholesale and retail trade, finance and real estate sectors.⁶ That is, in our estimates of the CNA, we exclude the household expenditures on household services and government expenditure, *i.e.* expenditure on public administration, defense and other non-production government services for avoiding the problem of double counting.⁷ However, in our estimation of value added, we include the productive government services, *i.e.*, transport, communications and public utilities as there are production activities in these sectors of the economy which are marketed. It is important to note that in the estimation of the classical value added, we also include output which has been produced but not counted in the orthodox estimate of GDP, such as intermediate inputs and depreciation of the non productive activities of wholesale and retail trade, finance and real estate. Also, the measurement of productivity in the CNA in the denominator includes only productive labor, while in the ONA all employment is treated as if it were productive. The evolution of the two measures of productivity is displayed in Figure 2 below:

Figure 2. Labor productivity and real wages

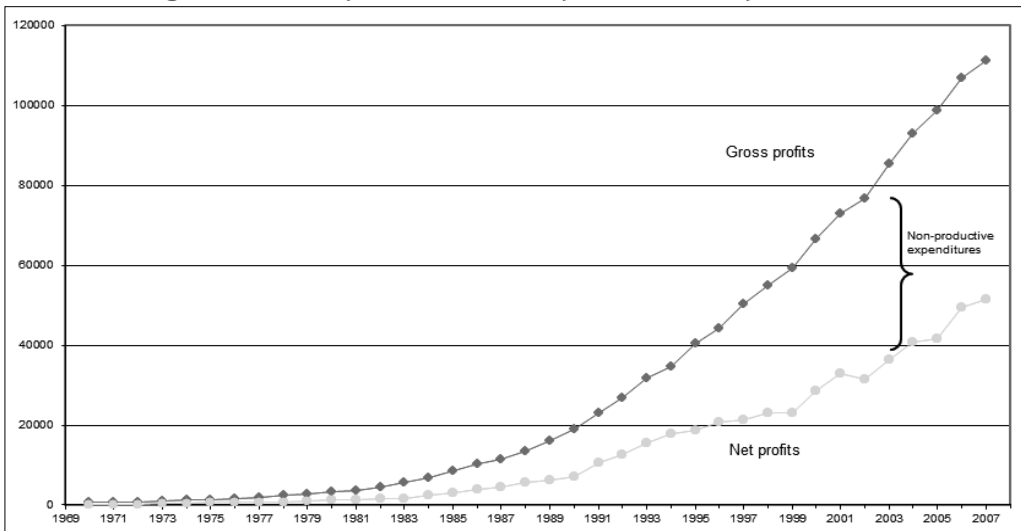


In the same figure, we display the labor cost as the average wage of productive workers deflated by the wholesale price index; in other words, we estimate the product wage, that is, the labor cost from the perspective of business and not necessarily of the worker.⁸ We observe that the real wage increases at an average annual growth rate of only 1.77%. It is worth noting that the expansion of non-productive activities is possible only if the productivity of labor is increasing at a rate high enough to compensate for the expansion of unproductive activities. In other words, an economy must generate enough surplus to allow for an ever-increasing support of growing

unproductive activities. However, at the same time, there must be enough surplus invested productively, so that the system will be able to maintain at least its productive capacity.

Figure 3 below shows the evolution of the total gross profits (surplus value, or simply surplus), whose most crucial component is net profits. Net profits indicate the portion of surplus which is available to finance investment in the productive sectors of the economy and eventually increase the growth potential of the economy. The total gross profits (or surplus) comprise the intermediate inputs and depreciation of the non-productive sectors of the economy, the wages of non-productive sectors, the wages of non production workers of the production sectors as well as taxes, interests, rents and other payments made to the royalty sectors (finance and real estate, as well as government services) of the economy. As this component of the surplus expands, less remains to be invested productively, and therefore, the growth potential of the economy is weakened. From Figure 3, we see a sustained growth and an expansion of non-productive expenditure of the Greek economy during the period 1970-2007. The net profits are estimated using data from the AMECO database spanning a long time period of the Greek economy.

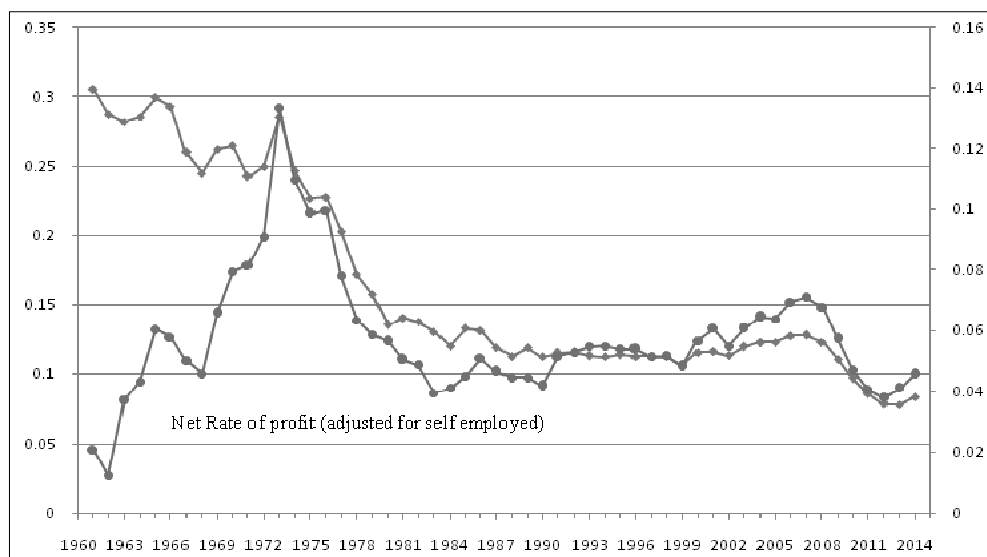
Figure 3. Gross profits and non-productive expenditures



For the estimation of the rate of profit (Figure 4) in the numerator, we used the net operating surplus after deducting all taxes and in the denominator we used the net capital stock, lagged by one period, and expressed in current prices through the investment price index (details for the estimation of this variable see Tsaliki and Tsoulfidis, 2013). It is important to note at this juncture that the estimation of the net rate of profit adjusted for the imputed wages of the self employed population, measured on the right-hand side axis of Figure 4, gives a rather distorted picture of the actual movement of profitability especially in the 1960s. The idea is that the agricultural population was large in the 1960s and self-employment in this sector extensive and excessive. There is no doubt that by assigning a wage to the members of an agricultural household which is equal to the average wage of the economy is not a fully satisfactory solution in an economy with a large agricultural sector, where self employment is widespread. Thus, the two rates of profit (i.e., the adjusted for self employment net rate of profit measured on the right-hand side axis and the

unadjusted for self employment one measured on the left-hand side axis of Figure 4) before the 1970s, when agricultural population is large, display different patterns, while after the 1970s, as agricultural population declines, the trends of the two rates of profit are quite similar.

Figure 4. The profit rate in the Greek economy, 1960 - 2013



In the evolution of the net profit rate, we can identify the various phases that the Greek economy went through. In the 1960s and perhaps till the early 1970s the profit rate is at a high level with a mildly falling trend and this pattern is associated with a period of high growth rates of the Greek economy and low (by today's standards) unemployment rates indicating that Greece has also experienced a golden age of accumulation. Next, we have a falling rate of profit in a protracted period of time covering the decades of 1970s and in the 1980s indicating the period of the silent depression. The net profit rate picks up again in the 1990s up until the last years of the first decade of the new millennium. It is interesting to note that whatever happens to the tendency of the rate of profit, what is certain is that its level in recent decades is substantially lower than that of the 1960s or early 1970s. This means that the recovery in the post-1990 years did not have the dynamism that characterized the pre-1973 years. This phenomenon of a slow increase in the profit rate is not a local (restricted to Greece) phenomenon, but rather an international stylized fact characterizing the growth path of most economies, as it has been shown for the U.S. economy (Paitaridis and Tsoulfidis 2012) and for a number of countries by Basu and Vasudevan (2013).

4. The mechanics of profitability and phase-change

A falling rate of profit, in and of itself, does not lead to an economic crisis. In fact it is possible that a decline in the rate of profit might be accompanied by high rates of economic growth, such as was the case in the pre-1973 years. The secular movement of the rate of profit and its association with the phase of the economy has attracted the attention of all the major economists

of the past (Smith, Ricardo, Marx, J. B. Clark and Keynes). Excluding the trivial case of a zero profit rate, which eliminates altogether the incentive for accumulation, there is general agreement that the desire for accumulation depends crucially on the movement of the rate of profit.

According to Marx, for instance, a falling or rising rate of profit in the short-run is consistent with any stage of the economy. If we restrict the analysis to the downward stage of the economy, the fall in the rate of profit *per se* does not lead to the economic crisis inasmuch as the profit rate, *ceteris paribus*, exceeds the long term rate of interest; hence there does not appear to be any particular reason for the slowdown in investment activity. In Keynes also investment activity is determined by the difference between the marginal efficiency of investment (*i.e.* Keynes's measure of expected net profitability) and the rate of interest. Consequently, the fall in the rate of profit is absolutely consistent with the increase in the mass of real net profits and also with strong economic growth.⁹ However, only in Marx do we find a detailed explanation of the reason why a persistent fall in the rate of profit leads to economic crises. The systematic relationship between the profit rate, the mass of profits and the manifestation of crisis has been explicitly presented by Shaikh (1992) who showed in a formal model that the falling rate of profit leads to a stagnant mass of profits and to the crisis.¹⁰ This relationship can be cast in simple terms; starting with the rate of profit r defined as the ratio of total net profits s to the stock of capital K , we get:

$$r = s / K \quad \text{or} \quad s = rK$$

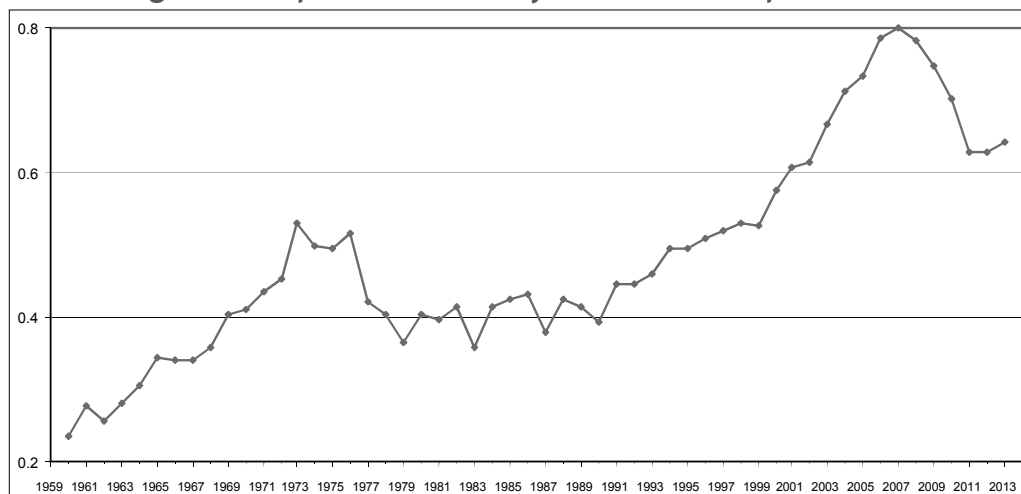
By taking differences and dividing by $\Delta K \neq 0$, we obtain:

$$\frac{\Delta s}{\Delta K} = r + K \frac{\Delta r}{\Delta K}$$

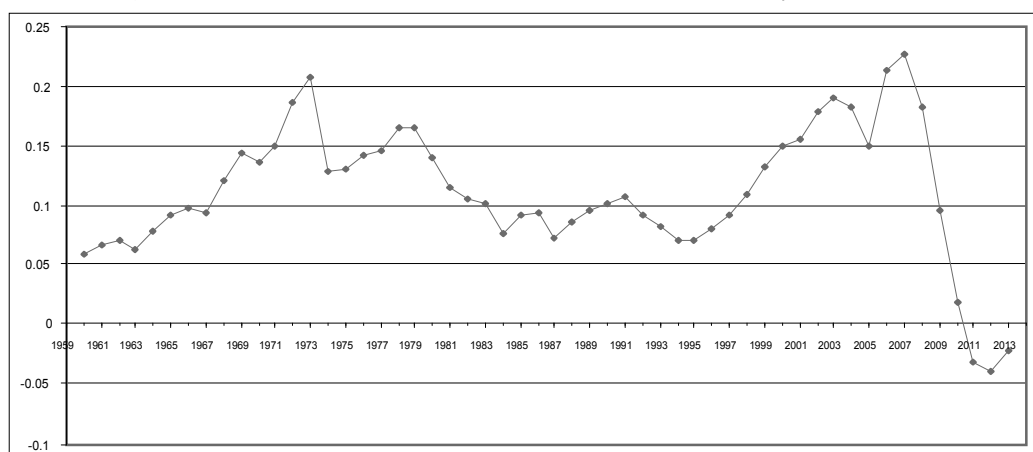
By factoring out r the above can be rewritten:

$$\frac{\Delta s}{\Delta K} = r \left(1 + \frac{\Delta r}{\Delta K} \frac{K}{r} \right)$$

The term $\Delta s / \Delta K$ indicates the way in which profits change in every change of capital stock or the change in profits for each unit of investment ($I = \Delta K$). It is obvious that $\Delta s / \Delta K$ is equal to zero or, what amounts to the same thing, the mass of profits stagnates, if and only if the elasticity of the rate of profit with respect to invested capital is equal to -1 . This tipping point is obtained when the percentage change in capital stock ($\Delta K / K$) is equal to the percentage change in the rate of profit ($\Delta r / r$) in the opposite direction, a condition that requires a falling rate of profit. Figure 5 depicts the movement of the mass of real net profits where we can discern the distinct phases that the Greek economy passed through, which incidentally are not different from those of the other OECD countries.

Figure 5 Net profits deflated by the investment price index

We observe the stagnation of real net profits of the late-1960s or early-1970s which lasted until about the late-1980s. In fact the level of the mass of real net profits is similar to their level during the last years of the 1980s. The recovery of profits was slow but from 1987 onwards the rise in profits is strong enough. Certainly, the year 2007 is a threshold year. The increase in the mass of real net profits reaches a plateau-like shape before it starts its falling path which continues to the more recent years. Already this continued recession is the longest ever observed in OECD countries. Figure 6 shows the evolution of the net real investment in which one can identify the four distinct phases experienced by the Greek economy.

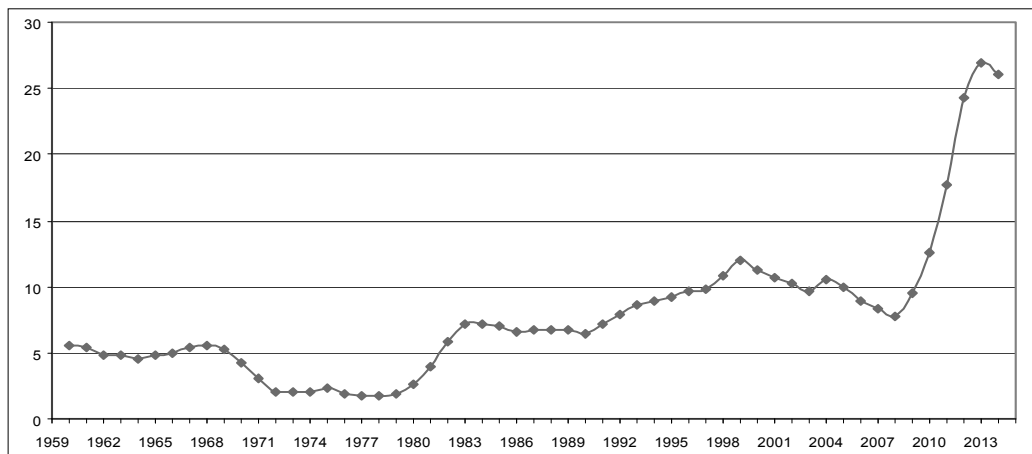
Figure 6. Real net investment in the Greek economy, 1960-2013

In particular, the boom period that lasted until the early 1970s was followed by the continued downturn in the 1980s, and then the new era characterized by high investment activity lasting up until about 2007, was followed by an unprecedented precipitation in investment which appears to have no end any time soon. It would be of great interest to investigate the composition of

this investment, that is, to what extent it was spending on equipment and on structures, and through this distinction to arrive at conclusions with respect to the sustainability of growth rates. The performance of the economy since the year 2007 shows that these growth rates were lacking sustainability, as there were not based on investment in equipment, that is to say in new technologies, but rather in structures indicating no or minimal technological change and also spending on infrastructure with mainly long run effects on the economy.

The expected outcome of negative net investment (after the year 2007) is the unprecedented increase of the unemployment rate (see Figure 7) which in 2012 was higher than that of Spain! While the years 2013 and 2014 are just dismal predictions.

Figure 7. Unemployment in the Greek economy, 1960-2014¹¹



From Figure 7, we see that the unemployment rate remained relatively low until the late-1970s as a result of the high growth rates and the massive immigration that the country experienced during the first post-war decades. Since the early 1980s, however, and with the economy in a prolonged recession, unemployment began to rise, a trend which continued to the boom period that followed the 1990s. Most EU economies are characterized by relatively high unemployment rates, on average, during the 1990-2007 boom (Katrakilidis and Tsaliki, 2008, Alexiou and Tsaliki, 2009). We insist on this point, because during the post-war period in all Western economies, including Greece, the ideal was the full employment of labor which in those years was associated with zero or negligible unemployment. Because such a goal was not easy to achieve, the goal changed to a desired or natural rate of unemployment (*i.e.*, frictional plus structural unemployment) ranging between two to three percent.

Historically, the unemployment rates in Greece were particularly low because of emigration and also the presence of a big agricultural sector, where the potentially unemployed could be employed. For example, the unemployment rate which was below the two percent level before 1980, rose to double and triple levels in the post-1980 years and yet the unemployment rate in Greece was among the lowest in OECD countries. We cannot say the same thing though for the period of the "new golden age of accumulation: (or 'new economy' or 'dot com economy') where the rate of unemployment (over) quadrupled compared with that prior to 1980. In other words, during that period of economic boom, unemployment did not fall as much as those who regard the idea of employment as a kind of inalienable right, and in the same league as other natural rights, would have liked to.

5. The Greek economy in its worse depression

The preceding discussion reveals that the new golden era of accumulation starting in the late 1980s and lasting until about 2007 presents some common features with the previous golden era (1945-1970) of accumulation, such as increasing labor productivity, introduction of new technologies, and the like. It also presents significant differences, such as stagnation of real wages and expansion of unproductive activities that reduce the potential growth momentum of the economy. During this period, although the level of the net profit rate after the mid-1980s increased on average, still it remained at levels well below these of the profit rate of the post-war 'golden age of accumulation'. The net rate of profit, although very low compared to that of early 1960s, however, was sufficient to generate substantial increase in the mass of real net profits for two reasons: (a) the increase in total invested capital was such that it offset the fall of the net profit rate resulting thus in a much larger mass of real net profits and (b) monetary policy aimed at keeping interest rates low and in fact significantly lower than their levels in the 1960s and the 1970s. Therefore, the low interest rate coupled with the increase in productivity and slowly rising or even stagnant real wages contributed to the increase in the (net) rate of profit. At the same time, capital accumulation continued to be high, although not at the rate needed to create enough new jobs and reduce unemployment which remained at high levels.

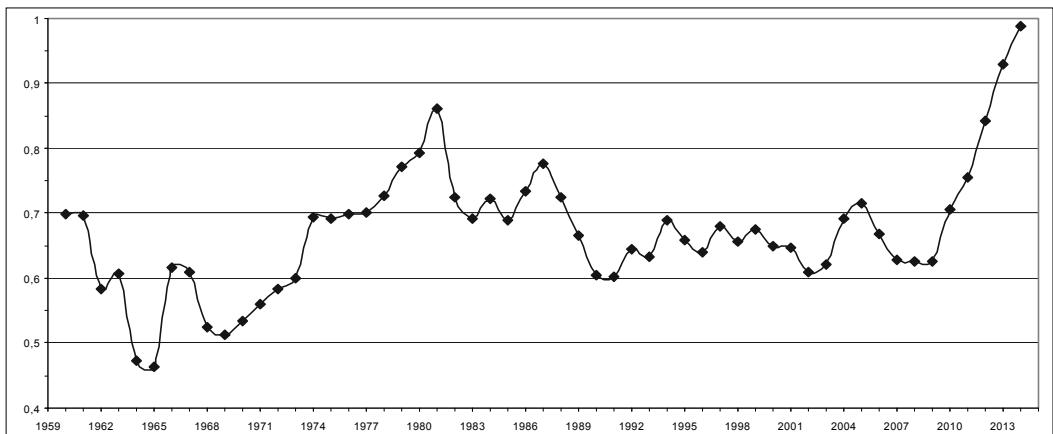
The above analysis shows that the 'new golden age of accumulation' and the associated with it 'new economy' that was supposed to be immune to (at least severe) cyclical fluctuations through the effective functioning of market forces was eventually inflicted by exactly the same 'disease' of the old 'golden age of accumulation' and the related with it mixed economy of the first post-war decades. Already in 2006 we observe the beginning of a sharp fall in the rate of profit (which was not at a high level to begin with) that has led the Greek economy to its deepest depression. The main features of this depression are the unsustainable debt, the unprecedented high unemployment rates, the formidable degradation of the workers and therefore the devaluation of the price of labor, but also the devaluation of the physical and financial assets of both the public and the private sector. All of the above, naturally, lead to increased social tensions and the *threatening of social stability and social cohesion*.

Notwithstanding that the falling rate of profit explains the crisis through the stagnation of real net profits on average for each unit of capital invested, and while such an explanation is general enough, and therefore suitable to (almost) all OECD economies, one should not overlook that the outbreak of the crisis has country-specific characteristics which are worth examining. In other words, every crisis displays characteristics depending on the concrete economic policies pursued before and during the crisis as well as the institutions in place and those under construction. Therefore, it would be wrong to attribute all problems exclusively to the operation of inexorable economic laws that led to the financial crisis as if everything was the outcome of an inevitable necessity. In contrast, the policies followed before and during the crisis worsened instead of moderating the effects of crisis.

How did the economy get into this predicament? The question is reasonable, and by early 2008 there was nothing to portend the depth and intensity of the coming crisis. It is true that many predicted the advent of recessionary years, but in no way did they anticipate negative net investment and such an unprecedented increase in unemployment.¹² It is interesting to note that even in 2009 the growth rates of the Greek economy were surprisingly high and the official predictions claimed sustainability of these growth rates. These predictions have spectacularly failed and negative growth

rates set in for a prolonged period of time, now in the seventh year! But let us take things from the beginning. The crisis has been particularly severe in Greece due to a series of policy measures which contributed to the weakening of the productive base of the economy and cherished unproductive activities which past a point could not be supported by the impaired production base of the economy. The structural weaknesses of the Greek economy were evident from the early post-war years. The fact is that the first post-war years, with the funds of the Marshall Plan, were dominated by the idea that economic growth is closely intertwined with the industrialization of the economy (see also Katrakilidis, *et al.*, 2013). Industrialization was a process that went on, albeit slowly, during the 1950s and 1960s. As a result, the competitiveness of the Greek economy was improving as this was expressed in the rising exports to imports ratio which reached its highest level in 1981 (see Figure 8). Clearly, this was the effect of industrial policies pursued in the first post-war decades, which, if continued unabated, then at least the trends showed slow improvement in the competitiveness and closing of the gap between exports and imports. However, the abandonment of this set of industrial policies and the lifting of protectionist measures as a precondition for Greece to join the EEC (now the EU) in the year 1981 deteriorated the competitiveness of the Greek exporting industries. The improvement in this ratio after 2010 should not be interpreted as a success of the austerity programs since during this five years period (2010-2014) imports are in fact falling by an average annual rate of -5.4%, while exports, on the other hand, are increasing at an average annual rate of only 3.04%. If we look at the longer period 2008-2014, then we find that imports are falling at an annual rate of -7.8%, while exports are also falling at -3.95%, and so the ratio of exports to imports displays a rising trend!¹³ To our view no definitive statements can be made with respect to any improvement in competitiveness on the basis of this data alone.

Figure 8. Ratio of exports to imports



Greece, after her full membership to the EEC, either because of her formal obligations to eliminate most protective measures, or because of the lack of a new industrial policy in the place of the old which ought to be abandoned, saw her previous competitive position gradually being challenged. As a consequence, in this new environment, the struggle for survival intensified and lacking an alternative plan for their strengthening many manufacturing companies, naturally, were under the threat of mass extinction giving rise to unemployment rates that the Greek society was not ready to tolerate. At this point it is worth emphasizing that in the early years of the 1980s the

international economic crisis was in its worst phase. Inflation and stagnation were widespread, while interest rates domestically and internationally were at particularly high levels making borrowing prohibitive for Greek enterprises. The socialist government initially (1981) sought to broaden the tax base by imposing a property tax, but quickly retreated from this initial design and turned to the easy solution which was borrowing from domestic sources in an effort to finance its increased expenditures and, at the same time, to channel liquidity on favorable terms to troubled companies in the effort to satisfy both the business people and its electoral base.

The Industrial Reconstruction Organization (IRO) established in 1983 was designed to rescue the so-called troubled companies of the Greek economy. These companies were across sectors including shipyards, cement, textiles, paper and plastics industries.¹⁴ The troubled companies in the early 1980s were kept operating by loans (most of which at no charge). The general philosophy of the government was contained in the following hackneyed imprint "to clean-out troubled companies, to upgrade and to let them meet the demands of competition." But alas! This "upgrading" was implemented in a manner very different from that professed. The troubled companies not only did not proceed in mergers in an effort to increase size and realize economies of scale, restructure production and finally become competitive, but rather the government's aid was used to worsen the competitiveness of the troubled companies by encouraging additional, and mostly unnecessary, hiring of new personnel. Obviously this scheme of business - government partnership could not be maintained for long, because an increasing amount of produced surplus was absorbed for the mere maintenance of the troubled companies and very little was left to be invested productively. As a consequence, the troublesome part of the Greek economy soon infected the healthy one, resulting in the weakening of the entire economy.

Similar phenomena were developed in the agricultural sector. In particular, the operation of cooperatives was the mechanism through which the financing of farmers would take place with the purpose of the restructuring of cropping pattern and production volumes, investing in infrastructure and directing the production of products and crops in such a way so as to provide a competitive advantage. In fact, this funding inactivated the vast majority of farmers and prevented them from seeking new methods of production and generally preserved, if not promoted, all the structural weaknesses in agricultural production. As a consequence, agricultural production not only lost its competitiveness in the international arena, but also in the domestic one, which was flooded with imported agricultural products. There is no doubt, that with proper planning, organization and guidance many agricultural products could be produced domestically with the same, if not lower than the international, unit cost. The worst of all was the irreparable harming of the cooperative concept, which was so necessary for the reorganization of agriculture and its redirection in products and methods more suitable to the specificities of the country.

Consequently, manufacturing and agriculture, the two most strategic sectors of the economy, which are intertwined between each other and with the other sectors of the economy which produce tradable goods, lost most of their competitiveness in international and, worse of all, in domestic markets. Meanwhile, the import penetration further limited the market share of domestic industrial and agricultural enterprises and thus limited their profitability leading to reduced production and employment in both sectors.

Under these circumstances and in the absence of effective protection from international competition, the Greek entrepreneurs gradually shifted to sectors which enjoyed protection mainly because of their domestic nature and such are the sectors producing non-tradable goods and services. This category included not only non-productive sectors such as the wholesale and retail

trade sectors, the real estate sectors and the financial institutions, but also productive sectors such as tourism, healthcare, media, transportation, communications, construction and the cement industry. These industries are secured from international competition and enjoy a high protection factor, either because of natural barriers or of government privileges. In the conditions of an internationally booming economic environment, as was the case during the period of the 1990s and 2000s, it was relatively easy to ensure the extra demand needed by the sectors of non-tradable goods and services through government orders which were financed by borrowing on the international money markets. The general atmosphere was conducive for such borrowing activity, and from the late 1990s onwards Greece enjoyed excellent (triple A) credit rating, which resulted in very low interest rates. Therefore, the demand for the production of non-tradable commodities was maintained at high levels for relatively long periods of time. These non-tradables included the major public works such as highways, harbors, airports and of course the funding for the Olympic games of 2004. Moreover, the government by granting special privileges to particular companies, which were activated in the non tradable commodities, managed to maintain their profitability at high levels.

During the 1990s the idea of integrating Greece into the common currency Eurozone (EZ) was adopted. The proponents of the idea advanced the argument that via the integration Greece would be obliged to reduce her budget deficits and her mounting public debt to 3% and 60%, respectively. Such targets could be only achieved if they were accompanied by measures that would shift the structure of the economy to more productive directions. The problem with this prospect was that, eventually, both the 3% and 60% borderlines were violated not only by Greece, but by the leading EZ countries, while the move to the more productive economic structure remained a professed but far from achieved target. Under these circumstances, the country drifted toward a deep recession, and all its long-lasting structural weaknesses began to emerge.

More specifically, the adoption of the euro and the subsequent inactivation of monetary policy were accompanied by objectives of budgetary policy that could not be achieved without radical restructuring of the state apparatus and the reconsideration of policies (not necessarily to the downward direction) concerning wages, pensions and more generally benefits. It seems that the integration in the EZ was not a mature choice, since it strengthened further the weaknesses of the Greek economy and revealed the worse aspects of her political system. More specifically, the appreciation of the euro relative to the dollar encouraged the increase in consumption expenditures and especially those of imported goods. Furthermore, investment spending was not directed to plant and equipment which incorporate new technologies and contribute to the increase in productivity. On the contrary, the great deal of investment activity was directed to structures which do not embody much of new technologies and, of course, public works without immediate effects on productivity, and therefore the competitiveness of the economy.¹⁵

In a hypothetical exercise, if instead of the euro Greece retained the drachma as its national currency, the inflation and devaluation that would follow coupled with rising interest rates would reduce consumption expenditure and discourage government from lending and financing unproductive expenditures.¹⁶ Therefore, the domestic currency would act as an automatic control mechanism for the excesses of the Greek government and also of households. But the hard euro facilitated imports and accelerated the further weakening of the internal links of the economy, *i.e.*, the disruption of the interconnections of sectors and activities. Meanwhile, the very low interest rates led to excessive government borrowing thereby shifting problems and postponing the much-needed structural changes to the distant future. The results are known: chronic fiscal deficits and mounting debt to the point that it became impossible to be sustained by the weak productive

base of the economy, and the widening deficit of the current account which led to the painful internal devaluation; that is, falling prices (wages, pensions and welfare benefits have been mainly devalued) which are the result of rising productivity caused mainly by higher work effort and lower wages. The latter require workers' discipline which is attained with the rising unemployment rate.

6. Concluding remarks

The main argument of this paper has been that the cause of crisis in Greece was not different from that of other countries and it is associated with the decline in profitability. Each crisis, however, has its own imprint in each individual country and time period. In the case of the Greek economy, the current crisis of profitability need not necessarily have such dire consequences for the vast majority of people as it turned out to have.

The current crisis, like all previous ones in Greece, was manifested in the fiscal domain and was anticipated since the late 1980s, when Greece, once again, came very close to the brink of financial collapse, but she managed to escape it as a result of global economic growth which made possible the financial aid from the EU. Therefore, what were needed at the outset were structural changes, and the elimination of social injustices and blatant differences in salaries and pensions which, in many cases, were beyond any economic logic. If the government, any government, was committed to such a direction it would have gained the support of the majority of people. This was not the case with the socialist government in the end of 2009 as it was lacking a bold plan and many members of the government thought, at least in the beginning, that the crisis would be overcome with "the policies as usual".

In our view, the crisis would have been less painful if the government early on had the courage and conviction to take a series of drastic measures among which are: the broadening of the tax base and the instituting of a fairer distribution of the tax burdens; the disruption of privileges in business layers that survive at the expense of the state budget; the restriction of the privileges of the labor aristocracy and bureaucracy. The above combined with the reduction of public consumption expenditure could create budget surpluses even from the first years and the economy would have avoided the worse consequences of the crisis that it has experienced in this almost seven year period. These measures would be absolutely necessary, regardless of the decision to remain or not in the EZ. The current situation, unfortunately, may be described as a catch-22 predicament, where the government cannot lower the basic wage any further, without social upheaval; this situation may be characterized as a "wage trap" (Tsoulfidis, 2010 and 2011). On the other hand, the government, or what amounts to the same thing, the European Central Bank cannot further reduce, in any significant way, the interest rate without creating economic chaos; this situation is known as "liquidity trap". Meanwhile, the mounting debt does not allow for an expansionary fiscal policy, unless there is a general (EU) consensus for the devaluation of the public debt or the application of the Ricardian idea of a capital levy, that is a tax on high incomes from capital and property in general (Tsoulfidis, 2013). Meanwhile, the prospects for financial aid from the EU countries become increasingly slimmer, as the EU is pressed in a tectonic-like way by the Asian and other emerging economies while the crisis, in one way or another, already hits the well to do EU economies and reveals the new economic powers that will dominate in the international arena in the coming decades.

Notes

1. This paper draws on my joint research with Persefoni Tsaliki, whom I thank for further comments and discussions. Particular thanks also go to Theodore Mariolis and Aris Papageorgiou for their comments and suggestions. The usual disclaimer applies.
2. Hence, we refer to Kondratiev type cycles that last four to five decades, for details see Papageorgiou and Tsoulfidis (2006).
3. The data for the years past 2007 are predictions provided by AMECO: (http://ec.europa.eu/economy_finance/db_indicators/ameco/index_en.htm). This data base refers to variables related to GDP for a number of countries.
4. KLEMS is a data base of EU and it is accessible at: <http://www.euklems.net/>. The abbreviation KLEMS refers to Capital (K), Labor (L), Energy (E), Material (M) and Services (S) by sector.
5. For a detailed discussion of productive unproductive labor see Tsaliki and Tsoulfidis (2013), *inter alia*.
6. These estimates are based on data from KLEMS. It is interesting to note that the sectoral disaggregation of the data is in basic prices, which according to the System of National Accounts (SNA) refers to "the amount received by the producer from the purchaser for a unit of good or service produced as output. It includes subsidies on products and other taxes on production. It excludes taxes on products, other subsidies on production, suppliers' retail and wholesale margins, and separately invoiced transport and insurance charges. Basic prices are the prices most relevant for decision making by suppliers" and most appropriate, we may add, for our estimations. The interested reader may find the details of the computations in Tsaliki and Tsoulfidis (2013).
7. Household services are paid out of household income which has been already counted; public sector activities are paid out of government tax and non tax revenues which are already part of surplus-value.
8. Should we need to estimate the purchasing power of workers, then we would divide their wage by the consumer price index (Tsaliki and Tsoulfidis, 1995).
9. Similarly, it could be argued that a rising rate of profit does not necessarily lead to a growing economy.
10. Mariolis (2010, ch. 10) presents this analysis in terms of a differential equation and shows that a falling rate of profit may indeed lead to a stagnant mass of profits and the stationary state of the economy. But then he presents a few counterexamples based on various decreasing functions of the rate of profit. This theoretical analysis renders imperative the econometric specification of the falling rate of profit in actual economies and the realistic calibration of its functional presentation.
11. The figures for the years 2013 and 2014 are just predictions.
12. My 2001 article, and other writings even earlier, anticipated the end of the boom of the 1990s and 2000s and the coming crisis, where the vast majority of population would not be protected, to the same extent as during the depression of the 1970s, by the welfare state.
13. Our data on exports and imports are in current prices and their source is AMECO, the data for the years 2013 and 2014 are official predictions.
14. In 1986, the IRO had included 41 companies with 54,500 employees (see also Sakellariopoulos, 2004).

15. Competitiveness in its narrow definition is estimated as the ratio of nominal wages to labor productivity, or, alternatively, as the inverse of unit labor cost in tradable goods sectors relative to the corresponding world value. Thus competitiveness increases by reducing the wages and/or increasing productivity (Blanchard, 2007). At this point we need to draw the reader's attention to the paradox of Kaldor (McCombie and Thirlwall, 1994), according to which any growing economy, whose share in the international trade increases, experiences also an increase in its wage cost. There is no need for much research to see that in China, for example, a country with high growth rates, the labor cost, although much lower than that of developed countries, is however growing! Similar phenomena were observed in the past in Japan and South Korea, among other countries.
16. The potential return to a domestic currency is seen by some as a panacea to the economic problems of Greece and an instigator of disaster by others! Return to the drachma is no easy task and certainly is not discussed from the Greek and other governments, as this may trigger, among other things, domino withdrawals from the EZ. For supporters and opponents of the euro there is agreement in that the euro is not just a currency, but rather contains much more than the mere functions of money. In terms of economic analysis, however, the return to the domestic currency in and of itself does not necessarily imply hyperinflation and catastrophe. The analysis of Katsinos and Mariolis (2012) about the possible effects of a hypothetical adoption of a new drachma (currency) and its devaluation by 50%, *ceteris paribus*, shows that the price increase is not unstoppable, but subject to limitations arising from the inner connections of the economy, described by its input-output structure. Therefore, the inflationary expectations of a devaluation of say 50% are controllable and of relatively small effect, while the economy's competitiveness is expected to improve significantly. It is important to note that in all cases, even after a large depreciation, price stability and structural adjustments are prerequisites for economic growth. This is a conclusion derived from both the positive experience of the stability of the exchange rate of the new drachma after its sharp devaluation in 1953 and the associated with this devaluation industrial policies that were pursued up until the 1980s, and the negative experience of the continuous depreciation of the drachma and the abandonment of industrialization policies in the post-1980 period.

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